enterasys® Secure Networks™

DATASHEET

Wireless Access Points

High-performance, Enterprise-class WLAN Access Points

Full 802.11n 3x3 MIMO functionality using standard 802.3af PoE

Easy and cost-effective migration path to 802.11n

Comprehensive wireless security services for authentication, encryption, IPS, and NAC

Flexible architecture supports centralized and/or distributed traffic forwarding for voice/video/data applications

Policy enforcement and rate limiting at the AP support diverse deployments

Unified wired/wireless role-based access control with guest networking

Product Overview

The Enterasys Wireless solution optimizes distribution of the processing load between Access Points (APs) and wireless controllers to deliver exceptional performance while remaining easy to manage. Complex, time-sensitive functions such as QoS, encryption, policy enforcement, rate limiting, and dynamic channel selection are handled by the AP, while global functions like configuration, roaming, security management, and policy control are centralized at the wireless controller or the Enterasys Network Management Suite (NMS) console. Furthermore, the innovative Enterasys Wireless solutions-oriented architecture is able to determine how to forward traffic for the highest performance and reliability for each application. The result is a flexible and dependable WLAN infrastructure that can easily be leveraged to deploy VoWLAN and new high-performance solutions such as HD video.

Enterasys Wireless Access Points are available in the following models:

- AP3605 – dual radio 802.11a/b/g/n thin AP with internal dual-band antennas
- AP3610/3620 – dual radio 802.11a/b/g/n thin APs with internal/external dual-band antennas
- AP3630/3640 – dual radio 802.11a/b/g/n standalone indoor APs with internal/external dual-band antennas
- AP2605 – dual radio 802.11a/b/g thin AP with integrated antennas
- AP2610/2620 – dual radio 802.11a/b/g thin APs with internal/external antennas
- AP2630/2640 – dual radio 802.11a/b/g standalone APs with internal/external antennas that can optionally be configured to operate in thin mode - Europe only
- AP2650/2660 – dual radio 802.11a/b/g thin outdoor industrial APs with internal/external antennas

Purpose-built to enable voice and HD video communications across the WLAN, the Enterasys Wireless dual radio, 3x3 MIMO 802.11n wireless access points can be powered by a standard IEEE 802.3af PoE port found on most switches that form today's wired networking infrastructure

Benefits

Business Alignment

- Support for demanding voice/video/data applications to enhance mobile worker productivity and convenience
- Role-based grouping of users, devices, and applications to deliver priority, QoS, and security in accordance with business needs
- Seamless roaming across an entire multi-subnet campus without the need for cumbersome client software
- Integrated management, security, and QoS features reduce operating cost and ensure a consistent user experience regardless of location

Operational Efficiency

- Centralized visibility and control from Enterasys Wireless Management Suite and Enterasys NMS accelerate problem resolution, optimize network utilization, and automate management
- Migrate to 802.11n without requiring power, switching, or cabling upgrades
- Adaptive architecture reduces complexity and optimizes information flow for each application
- Dynamic Radio Management ensures optimal AP coverage and maximizes the availability and quality of wireless service across the enterprise
- Wireless Distribution Service (WDS) enables Enterasys Access Points to wirelessly interconnect while extending WLAN service to distant areas
- Flexible Client Access optimizes throughput for 802.11n clients in today's mixed a/b/g and n client environments

There is nothing more important than our customers.

– making wireless mobility more practical, achievable, and cost-effective. This means that Enterasys 802.11n APs do not require a costly upgrade to higher power 802.3at PoE switches. Similarly, enterprises are not required to pull extra Ethernet cables for additional power or limit the performance of APs by disabling a radio or falling back to 2x3 or 2x2 MIMO operation.

Enterasys Wireless APs use the most sophisticated standards to ensure effective security and client compatibility. Using the 802.11i (WPA2) standard, wireless LAN deployments can utilize 802.1X or PSK authentication and AES, TKIP, or WEP encryption. These options ensure secure authentication and seamless integration of the APs with the wired network infrastructure.

Enterasys Wireless APs work together to prevent interference and optimize RF sharing. Each AP is able to intelligently and dynamically adjust its transmit power and channel based on information related to neighboring APs as well as external interference or channel occupation. This ensures optimal performance for all wireless clients. If an AP fails, neighboring APs will increase power to maintain coverage in the affected area. The APs also support RF channel plan selection with the option of supporting 3-channel, 4-channel or a fully custom configuration.

802.11n

Enterasys Wireless 802.11n APs are exceptionally power-efficient, ensuring that they can run on industry-standard 802.3af PoE infrastructure. Many 802.11n APs exceed the power consumption limits of the 802.3af standard specification for PoE when configured for 3x3 MIMO on both radios (Note: AP3605 supports 2x3 MIMO only). These solutions demand the use of AC power adaptors or costly upgrades to pre-standard or proprietary PoE infrastructures to achieve optimal RF performance.

Exceptional performance is delivered utilizing the 3x3 statistical diverse transmit function. 802.11n AP performance gains are best achieved in the 5 GHz band where more non-overlapping channels are available. To achieve the optimal 300 Mbps data rate, the Enterasys Wireless 802.11n AP can be configured to use channel bonding, combining two adjacent 20 MHz channels into a single 40 MHz channel. Additionally, the Enterasys Wireless 802.11n APs are DFS compliant and can offer up to 11 non-overlapping, bonded channels in the 5 GHz band depending on the regulatory domain. This provides more flexibility when building high-throughput networks than with 802.11 APs which are not DFS compliant, as they are restricted to only 4 non-overlapping bonded channels.

Plug and Play

Enterasys Wireless Access Points will securely and automatically register with an available wireless controller and download their configurations, simplifying deployment and operational effort. APs can immediately provide service to users without having to be manually configured.

Adaptive Solutions-Oriented WLAN Architecture

Most WLAN solutions force network administrators to choose between a centralized or distributed architecture. A significant advantage of Enterasys Wireless is that it can support both deployment models simultaneously, offering significant flexibility benefits over other solutions. Network administrators can assign a topology (centralized or distributed) via policy to an individual user or group of users. A specific SSID can also be statically mapped to a given topology without any restrictions, so that the wireless LAN infrastructure can efficiently adapt to customer-specific business requirements and applications.

A centralized architecture requires all traffic to be backhauled to a centralized controller. With the higher data rates of 802.11n APs, traffic loads on the wired network can be much greater than those created by legacy 802.11a/b/g APs. Depending on the size of the WLAN deployment and how much data is forwarded to the centralized controller, significant congestion may result.

A fully distributed deployment eliminates backhauling traffic to a controller but increases the processing complexity for real-time mobile applications that require seamless cross-subnet roaming (e.g. VoWLAN). This can force IT managers to either create a large broadcast domain or apply many VLANs.

Benefits (cont.)

Security

- Authentication and authorization functions include role-based access control (using 802.1X, MAC, and captive portal) and authentication at the AP (802.1X supplicant)
- Standards-based encryption at the AP (802.11i, WEP, TKIP, WPA, WPA2, WPA-PSK, WPA2-PSK, and WPA2-AES)
- Wireless Intrusion Prevention (WIPS) functions provide continuous scanning, threat classification, rogue AP detection, and countermeasures against possible attacks
- AP personality can change to full time and part time sensors to perform Wireless Intrusion Detection and Prevention (WIPS) for effective detection and prevention of rogue APs and other threats
- Integration of security policies (NAC, IPS) across the wired/wireless networks enables quick diagnosing and resolution of security threats
- Integration of Policy Manager across the wired/wireless networks dynamically oversees user access at the wireless network point of entry

Support and Service

- Industry-leading customer satisfaction and first call resolution rates
- Lifetime warranty for indoor access points
- Personalized services, including site surveys, network design, installation, and training

With Enterasys Wireless, network administrators are able to create WLAN services and policies, which together can dynamically assign traffic forwarding rules to users and groups, limit data flows and control admission on a per user and per SSID basis. With the flexibility to provision services and enforce policies at the AP, wireless traffic can be bi-directionally limited to user-defined thresholds, filtered, and locally switched without the need to tunnel it back to the controller. In both cases, unwanted traffic does not traverse costly WANs or aggregating switches before being dropped at the controller. This is achieved by the unique ability to perform packet inspection at the AP, where the requested service and destination is identified and then used to filter, switch, or rate limit accordingly. The result is optimized responsiveness and performance for users and services. Easily adapted to diverse customer network configurations whether they comprise single building, local campus or routed remote offices, the Enterasys Wireless solutions-oriented architecture simplifies deployment and reduces implementation costs.

Survivable Branch Office

Administrators can cost-efficiently deliver WLAN services for users at remote sites without the need to purchase or manage a local controller. Combining built-in user-based policy management and captive portal capabilities, branch users, including guests experience premium performance with direct access to local resources such as Internet, printers and other specialized services. Traffic filtering, rate limiting, and exception handling of unauthorized users continues even when connection to the controller is lost.

Dynamic Radio Management (DRM)

Each Enterasys Wireless Access Point supports DRM. Although DRM is centrally managed and configured by the controller, DRM functions as a fully distributed system managing channels and transmit power allowing the WLAN infrastructure to adapt to RF interference (802.11 and others), heavy channel utilization, and AP failures.

Flexible Client Access (FCA)

Flexible Client Access is an access technique that can significantly improve the throughput for 802.11n clients in mixed a/b/g and n environments. FCA operates by ensuring equal airtime for all clients in environments with a mix of 802.11n and 802.11a/b/g devices. Network administrators can step-wise adjust this capability on a per WLAN service basis to improve responsiveness for all users and to maximize overall throughput across the wireless link.

Full RF Survivability

To ensure uninterrupted access, Enterasys Wireless Access Points automatically adjust their settings to continue to optimally service clients when adjacent APs fail or when the link back to the controller is lost.

In addition, Enterasys Wireless APs can be configured to dynamically redirect traffic to a secondary wireless controller if the primary wireless controller fails. When the failover mode is enabled, APs automatically register to both a primary and secondary wireless controller, ensuring high availability of the WLAN service and robustness for real-time applications

Security

Enterasys Wireless APs provide strong encryption and authentication with the use of 802.11i standards and captive portal.

Enterasys Wireless APs can be configured as part time or full time sensors to detect rogue APs or to detect and contain security threats with the Wireless Management Suite (WMS) Wireless Intrusion Prevention System (WIPS).

In addition, each AP can be configured with a certificate enabling the AP to authenticate to the wired network. The network is then fully protected against attempted re-use of the Ethernet port by unplugging the AP and connecting directly to the Ethernet cable, as a point of entry into the corporate network.

Quality of Service (QoS)

Enterasys Wireless APs support extensive functionality to ensure the best service for all multimedia applications. Enterasys Wireless APs use IP DiffServ/Precedence/TOS and 802.11e WMM to differentiate and prioritize wireless traffic. On the wired side, IP DiffServ/Precedence/TOS, and 802.1p are used to differentiate and prioritize traffic.

For 802.11 traffic, Enterasys Wireless APs support additional QoS features including 802.11e TSPEC (Call Admission Control) and U-APSD (automatic power save) to ensure high quality and power efficient services for voice, video, and data applications.

In addition, the original packet IP prioritization can be maintained on both the wireless and wired networks by enabling the Adaptive QoS mechanism. This feature allows tunneled and wireless packets to retain their IP prioritization value end-to-end. Furthermore, Enterasys Wireless APs allow IT managers to define custom mappings of different types of prioritization schemes to ensure that user traffic is properly differentiated when entering the wired network.

Bandwidth Control and Prioritized Service Delivery

Enterasys Wireless provides administrators with the means to control bandwidth utilization and prioritize service delivery. Unique, granular packet inspection capabilities at the AP continuously monitor and assess user and service destinations. Based on topology, filter rules and data rate thresholds defined in the user policy, a packet may be tunneled back to the controller, switched at the AP, or dropped. A user who violates a rate limit policy attribute could, for example, be directed to a quarantine segment attached to local AP or further rate limited.

Enterasys RoamAbout Access Point Investment Protection
Previous investments in the Enterasys RoamAbout® 4102 Access Points can be leveraged through software upgrades that enable Enterasys Wireless operation.

Enterasys Wireless Access Points

Supported Features – 802.11a/b/g/n	AP3605	AP3610	AP3620	AP3630	AP3640
Management					
Plug'n Play Installation **• Automatic Controller Discovery** **• Centrally deployed configurations and upgrades**	√	√	√	√ Thin mode only	√ Thin mode only
Web Management and Configuration	√	√	√	√	√
Secure Remote Management	√	√	√	√	√
Number of SSIDs Supported	16	16	16	16	16
Security					
Security via WEP, WPA (TKIP), WPA2 (AES), 802.11i, 802.1X	√	√	√	√	√
VPN Support: IPSec, PPTP, L2TP	√	√	√	√	√
Rogue AP Detection mode	-	√	√	√ Thin mode only	√ Thin mode only
Rogue AP Sensor mode	-	√	√	√ Thin mode only	√ Thin mode only
Performance					
Intelligent thin AP (Encryption, blacklisting, QoS and RF Management done by the AP)	√	√	√	√ Thin mode only	√ Thin mode only
Filtering at AP: traffic switching, policy enforcement, rate limiting	√	√	√	√ Thin mode only	√ Thin mode only
Wireless Distribution System (WDS)	-	√	√	√	√
Fast failover and Session Availability	√	√	√	√ Thin mode only	√ Thin mode only
Dynamic RF Management	√	√	√	√	√
Flexible Client Access (airtime fairness)	√	√	√	√ Thin mode only	√ Thin mode only
Load Balancing / Band-steering	√	√	√	√ Thin mode only	√ Thin mode only
Multicast Rate Control	√	√	√	√ Thin mode only	√ Thin mode only
Dual concurrent, Dual band 802.11a (5GHz) and 802.11b/g (2.4GHz) connectivity	√	√	√	√	√
Dual concurrent, Dual band 802.11a/n (5GHz) and 802.11b/g/n (2.4GHz) connectivity	√	√	√	√	√
802.11n MIMO support	2x3	3x3	3x3	3x3	3x3
Voice					
Quality of Service (WMM, 802.11e)	√	√	√	√	√
Call Admission Control (TSPEC)	√	√	√	√	√
Power Save (U-APSD)	√	√	√	√	√
Fast secure roaming and handover between APs	√	√	√	√	√
Pre-Authentication (Pre-Auth)	√	√	√	√	√
Opportunistic Key Caching (OKC)	√	√	√	√	√
Capacity					
Simultaneous Voice calls (802.11b, G711, R>80)	12	12	12	12	12
Simultaneous users per radio	128	128	128	128	128

Enterasys Wireless Access Points

Supported Features – 802.11a/b/g	AP2605	AP2610/2620	AP2630/2640	AP4102	AP2650/2660
Management					
Plug'n Play Installation **• Automatic Controller Discovery** **• Centrally deployed configurations and upgrades**	√	√	√ Thin mode only	√ Thin mode only	√
Web Management and Configuration	√	√	√	√	√
Secure Remote Management	√	√	√	√	√
Number of SSIDs Supported	16	16	8 – standalone 16 – thin mode	8 – standalone 16 – thin mode	16
Security					
Security via WEP, WPA (TKIP), WPA2 (AES), 802.11i, 802.1X	√	√	√ Does not support 802.1X	√	√
VPN Support: IPSec, PPTP, L2TP	√	√	√	√	√
Rogue AP Detection mode	√	√	√ Thin mode only	√ Thin mode only	√
Rogue AP Sensor mode	-	√	√ Thin mode only	-	-
Performance					
Intelligent thin AP (Encryption, blacklisting, QoS and RF Management done by the AP)	√	√	√ Thin mode only	√ Thin mode only	√
Filtering at AP: traffic switching, policy enforcement, rate limiting	-	√	√ Thin mode only	√ Thin mode only	√
Wireless Distribution System (WDS)	-	√	√ Thin mode only	√ Thin mode only	√
Fast failover and Session Availability	√	√	√ Thin mode only	√ Thin mode only	√
Dynamic RF Management	√	√	√ Thin mode only	√ Thin mode only	√
Flexible Client Access (airtime fairness)	√	√	√ Thin mode only	√ Thin mode only	√
Multicast Rate Control	√	√	√ Thin mode only	√ Thin mode only	√
Dual concurrent, Dual band 802.11a (5GHz) and 802.11b/g (2.4GHz) connectivity	√	√	√	√	√
Voice					
Quality of Service (WMM, 802.11e)	√	√	√	√	√
Call Admission Control (TSPEC)	√	√	√	√	√
Power Save (U-APSD)	√	√	√	√	√
Fast secure roaming and handover between APs	√	√	√	√	√
Pre-Authentication (Pre-Auth)	√	√	√ Thin mode only	√ Thin mode only	√
Opportunistic Key Caching (OKC)	√	√	√ Thin mode only	√ Thin mode only	√
Capacity					
Simultaneous Voice calls (802.11b, G711, R>80)	12	12	6 – standalone 12 – thin mode	6 – standalone 12 – thin mode	12
Simultaneous users per radio	128	128	128	128	128

Technical Specifications	AP3605/AP3610/AP3620/AP3630/AP3640
Data Rate	• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps • MIMO Mode HT20 (1 data stream): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps • MIMO Mode HT20 (2 data streams): 13, 26, 39, 52, 78, 104, 117, 130 Mbps • MIMO Mode HT40 Normal GI (1 data stream): 13.5, 27, 40.5, 54, 81, 108, 121.5, 135 Mbps • MIMO Mode HT40 Normal GI (2 data streams): 27, 54, 81, 108, 162, 216, 243, 270 Mbps • MIMO Mode HT40 Short GI (1 data stream): 15, 30, 45, 60, 90, 120, 135, 150 Mbps • MIMO Mode HT40 Short GI (2 data streams): 30, 60, 90, 120, 150, 180, 240, 270, 300 Mbps
Frequency Bands *	**802.11a/n:** • 5.15 to 5.25 GHz (FCC / IC / ETSI) • 5.25 to 5.35 GHz (FCC / IC / ETSI) • 5.47 to 5.725 GHz (FCC / IC / ETSI) • 5.725 to 5.850 GHz (ETSI) **802.11b/g/n:** • 2.400 to 2.4835 GHz (FCC / IC / ETSI)
Dynamic Channel Control	DFS & TPC support (ETSI)
Wireless Modulation	• 802.11a: OFDM • 802.11n: 3x3 MIMO (2x3 MIMO with AP3605) and 2 spatial streams • 802.11g: DSSS and OFDM • 802.11b: DSSS
Antennas	**AP3605/AP3610/AP3630: Six Internal Antennas** • 2.4 GHz / 5.0 GHz - 3 / 6 dBi Gain (omni) **AP3620/AP3640: Three External Antennas (detachable)** • 2.4 GHz / 5.0 GHz - 4 / 5 dBi Gain (omni)
Interface and Indicators	Auto-sensing 10/100/1000 Base-T interface. LED indicating AP status and connectivity Serial Console interface
Receive Sensitivity (typical)	• 802.11a: 6 Mbps/-93 dBm, 54 Mbps/-80 dBm • 802.11n 5 GHz HT20 Mode: 6.5 Mbps(MCS0)/-94 dBm, 130 Mbps(MCS15)/-72 dBm • 802.11n 5 GHz HT40 Mode: 15 Mbps(MCS0)/-89 dBm, 300 Mbps(MCS15)/-68 dBm • 802.11b: 1 Mbps/-93 dBm, 11 Mbps/-90 dBm • 802.11g: 6 Mbps/-92 dBm, 54 Mbps/-81 dBm • 802.11n 2.4 GHz HT20 Mode: 6.5 Mbps(MCS0)/-94 dBm, 130 Mbps(MCS15)/-74 dBm • 802.11n 2.4 GHz HT40 Mode: 15 Mbps(MCS0)/-88 dBm, 300 Mbps(MCS15)/-69 dBm
Power	802.3af Power over Ethernet, Class 0 (12.95 Watts Max) • Typical Power: 11 Watts • Optional DC Power Supply: Input 100 - 240 VAC, Output: 48 VDC, .38 A maximum, 0 to +40º C
Available Transmit Power *	**802.11a (FCC / IC) (OFDM \ HT20 \ HT40):** • 5.15 to 5.25 GHz: 15 dBm \ 15 dBm \ 15 dBm • 5.25 to 5.35 GHz: 18 dBm \ 18 dBm \ 15 dBm • 5.725 to 5.850 GHz: 22 dBm \ 22 dBm \ 22 dBm **802.11a (ETSI) (OFDM \ HT20 \ HT40):** • 5.15 to 5.35 GHz: 17 dBm \ 17 dBm \ 17 dBm • 5.500 to 5.700 GHz: 22 dBm \ 22 dBm \ 20 dBm **802.11b: (FCC / IC) (CCK \ OFDM \ HT20 \ HT40):** • 2.400 to 2.4835 GHz: 23 dBm \ 19 dBm \ 21 dBm \ 18 dBm **802.11b: (ETSI) (CCK \ OFDM \ HT20 \ HT40):** • 2.400 to 2.4835 GHz: 15 dBm \ 15 dBm \ 15 dBm \ 15 dBm
Compliance/Standards	Ethernet IEEE 802.3 / 802.3u / 802.3af; Wireless IEEE 802.11a/b/g/n; CSMA/CA (DCF/EDCF), WPA, WPAv2, WMM
Safety	UL / IEC / EN 60950-1 ; CAN/CSA 22.2 # 60950-1-03 UL 2043 Plenum Rating European 2006/95/EC Low Voltage Directive

Technical Specifications	AP3605/AP3610/AP3620/AP3630/AP3640
EMC & Radio	• FCC CFR 47 Part 15.107 and 15.109 Class B (FCC 47 CFR, Part 15.205, 15.207, 15.209, FCC 47 CFR, Part 2.109, 2.1093, FCC OET No. 65) • FCC 47 CFR, Part 15.247, Part 15.407 • ICES-003 Class B • RSS-210, RSS-102 (RF Exposure) • R&TTE Directive 1999/5/EC • EN 301 893 • EN 300 328 • 89/336/EEC EMC Directive • EN 301 489 -1 & 17 • EN55011/CISPR 11 Class B, Group 1 ISM • EN55022/CISPR 22 Class B • EN55024/CISPR 24 • EN 300 386 • EN / UL 60601-1-2 • EN 50385
Dimensions and Weight	214.6 mm x 180.8 mm x 55 mm (8.4" x 7.1" x 2.2") • AP3605/AP3610/AP3630 weight: 628.4 g (22.2 oz) • AP3620/AP3640 weight: 649 g (22.9 oz)
Environmental	Operating: Temperature 0º C to 50º C (32º F -122º F), Humidity 0%-95%, (non-condensing) Storage: Temperature -5º C to 50º C (23º F -122º F) Transportation: Temperature -40º C to 70º C (-40º F - 158º F) 2002/95/EC (RoHS Directive), 2002/96/EC (WEEE Directive), Ministry of Information Order #39 (China RoHS)

Technical Specifications	AP2605	AP2610/2620/2630/2640/4102	AP2650/2660
Data Rate	• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps		
Frequency Bands *	**802.11a:** • 5.15 to 5.25 GHz (FCC / IC / ETSI) **802.11b/g** • 2.400 to 2.4835 GHz (FCC / IC / ETSI)	**802.11a:** • 5.15 to 5.25 GHz (FCC / IC / ETSI) • 5.25 to 5.35 GHz (FCC / IC / ETSI) • 5.47 to 5.725 GHz (ETSI) • 5.725 to 5.850 GHz (FCC / IC) **802.11b/g:** • 2.400 to 2.4835 GHz (FCC / IC / ETSI)	**802.11a:** • 5.15 to 5.25 (FCC / IC / ETSI) • 5.25 to 5.35 GHz (ETSI) • 5.47 to 5.725 GHz (ETSI) • 5.725 to 5.850 GHz (FCC / IC) **802.11b/g** • 2.400 to 2.4835 GHz (FCC / IC / ETSI)
Dynamic Channel Control	DFS & TPC support (ETSI)		
Wireless Modulation	• 802.11a: OFDM • 802.11b: DSSS • 802.11g: DSSS and OFDM		
Antennas	**Two Integrated External Antennas** • 2.4 / 5.0 GHz - 2 / 5 dBi Gain (omni)	**AP2610/30: Two Internal Antennas** • 2.4 / 5.0 GHz - 4 dBi Gain (omni) **AP2620/40: Two External Antennas (detachable)** • 2.4 / 5.0 GHz - 4 / 5 dBi Gain (omni) **AP4102: Two Internal Antennas :** • Internal dual-band diversity omni antennas with connectors for optional external antennas. • External antenna connections: 1 reverse polarity SMA connector for 802.11a; 1 reverse polarity SMA connector for 802.11b/g	**AP2650: Internal Antennas** • 2.4 / 5.0 GHz - 3 / 4 dBi (omni) **AP2660: External Antennas (not included)** • 4 reverse polarity SMA connectors (2 per radio) • Various high-gain directional and omni-directional antennas are approved.
Interface and Indicators	Auto-sensing 10/100bT Ethernet interface. LED indicating AP status and connectivity AP4102 has 1 x RS232 Console interface.		
Receive Sensitivity (typical)	• 802.11a: 6 Mbps/-88 dBm, 36 Mbps/-77 dBm, 48 Mbps/-73 dBm, 54 Mbps/-69 dBm • 802.11b: 1 Mbps/-93 dBm, 2 Mbps/-90 dBm, 5.5 Mbps/-90 dBm, 11 Mbps/-87 dBm • 802.11g: 6 Mbps/-88 dBm, 36 Mbps/-77 dBm, 48 Mbps/-72 dBm, 54 Mbps/-70 dBm	• 802.11a: 6 Mbps/-89 dBm, 36 Mbps/-78 dBm, 48 Mbps/-73 dBm, 54 Mbps/-70 dBm • 802.11b: 1 Mbps/-91 dBm, 2 Mbps/-90 dBm, 5.5 Mbps/-89 dBm, 11 Mbps/-87 dBm • 802.11g: 6 Mbps/-89 dBm, 36 Mbps/-79 dBm, 48 Mbps/-74 dBm, 54 Mbps/-72 dBm	
Power	• 802.3af Power over Ethernet, Class 0 (12.95 Watts Max) • AC Power Adaptor - 5 VDC, 2 A	• 802.3af Power over Ethernet, Class 0 (12.95 Watts Max) • AC Power Adaptor • AP2610/20/30/40: 6 VDC, 1700 mA max • AP4102: 48 VDC, 270 mA	• 802.3af Power over Ethernet, Class 0 (12.95 Watts Max) • 48 VDC – 15 W • 110-230 VAC – 15 W
Available Transmit Power *	• 802.11a: – 5.15 to 5.25 GHz: 17 dBm (FCC/IC/ETSI) • 802.11b: 15 dBm (FCC/IC/ETSI) • 802.11g: 18 dBm (FCC/IC/ETSI); Transmit (selectable per radio): – 100%, 50%, 25%	• 802.11a: – 5.15 to 5.25 GHz: 17 dBm (FCC/IC), 18 dBm (ETSI); 5.25 to 5.35 GHz: 18 dBm (FCC/IC/ETSI); – 5.470 to 5.725 GHz: 18 dBm (ETSI); – 5.725 to 5.850 GHz: 15 dBm (FCC/IC) *Note 1: AP4102 does not operate on 5.25 GHz to 5.725 GHz (FCC/IC/ETSI)* *Note 2: AP2650/60 does not operate on 5.25 to 5.725 GHz (FCC)* • 802.11b/g: 18 dBm (FCC/IC),15 dBm (ETSI); Transmit (selectable per radio): – 100%, 50%, 25%, 12.5%, 6.25%	

Technical Specifications	AP2605	AP2610/2620/2630/2640/4102	AP2650/2660
Compliance/Standards	Ethernet IEEE 802.3 / 802.3u / 802.3af; Wireless IEEE 802.11a/b/g; CSMA/CA (DCF/EDCF), WPA, WPAv2, WMM		
Safety	UL / IEC / EN 60950-1; CAN/CSA 22.2 # 60950-1-03	UL / IEC / EN 60950-1; CAN/CSA 22.2 # 60950-1-03 UL 2043 Plenum Rating	IEC / EN 60950 - 1; UL / CSA 60950-1 UL HAZLOC, FM, ATEX
EMC & Radio	FCC CFR 47 Part 15, Class B ICES-003 Class B EN 301 893 V1.2.3 EN 300 328 V1.6.1 EN 301 489 1 & 17 EN 55022:2006 EN 61000-3-2:2006 EN 60950-1:2006 EN 300 328 V1.7.1 EN 301 489-1 V1.6.1 EN 301 489-17 V1.3.2 EN 301 893 V1.4.1 EN 50385:2002 EN 50401:2006	FCC CFR 47 Part 15, Class B ICES-003 Class B FCC Subpart C 15.247 FCC Subpart E 15.407 RSS-210 EN 301 893 V1.2.3 EN 300 328 V1.6.1 EN 301 489 1 & 17 EN / UL 60601-1-2 EN 50385 EN 55011 (CISPR 11) Class B Group 1ISM	EN 301 489-1 V1.6.1 EN 301 489-17 V1.2.1 EN 300 328 V1.6.1 EN 301 893 V1.3.1 EN 50385 1999/519/EC FCC CFR 47 Part 15, Class B
Dimensions and Weight	20.9 cm (8.2”) x 12.5 cm (4.9”) x 2.6 cm (1.0”) 650 g (22.9 oz)	AP2610/20/30/40: 40 mm x 115 mm x 175 mm (1.5” x 4.5” x 7”) AP4102: 21.83 cm (8.6”) x 13.73 cm (5.4”) x 3.27 cm (1.3”) AP2610/30 weight: 272 g (9.6 oz) AP2620/40 weight: 363 g (12.8 oz) AP4102 weight: 798 g (28.2 oz)	(W x H x D) 251 mm x 251 mm x 72 mm (9.9” x 9.9” x 2.8”) Without optional PS adaptor: 2241 g (79.1 oz) With optional AC PS adaptor: 2433 g (85.8 oz)
Environmental	• Operating Temp: 0 to 50º C (32 to 122º F) • Storage Temp: 0 to 70º C (32 to 158º F) • Humidity: 15% to 95% (non-condensing)	• Operating Temp: 5º C to 40º C (41 - 104º F) • Storage Temp: -40º C to 85º C (-40 - 185º F) • Humidity: 10% to 95% (non-condensing)	• Operating Temp: -40 to 70º C (+60º C with optional Power Supply) • Storage Temp: -40 to 85º C • Protection – IP65, NEMA 4x • Humidity 95%

** Bands, frequency and maximum power settings will vary according to channel and individual country settings.*

Ordering Information

Part Number	Description
Thin Access Points	
WS-AP2605	Dual Radio 802.11a/b/g indoor access point with two integrated dual-band diversity omnidirectional antennas
WS-AP2605-IL	Dual Radio 802.11a/b/g indoor access point with two integrated dual-band diversity omnidirectional antennas - Israel
WS-AP2610	Dual Radio 802.11a/b/g indoor access point with two internal dual-band diversity omnidirectional antennas
WS-AP2610-IL	Dual Radio 802.11a/b/g indoor access point with two internal dual-band diversity omnidirectional antennas - Israel
WS-AP2620	Dual Radio 802.11a/b/g indoor access point with two detachable dual-band diversity omnidirectional antennas
WS-AP2620-IL	Dual Radio 802.11a/b/g indoor access point with two detachable dual-band diversity omnidirectional antennas - Israel
WS-AP2650	Dual Radio 802.11a/b/g outdoor access point with internal dual-band diversity omnidirectional antennas
WS-AP2650-IL	Dual Radio 802.11a/b/g outdoor access point with internal dual-band diversity omnidirectional antennas - Israel
WS-AP2660	Dual Radio 802.11a/b/g outdoor access point with four RP SMA connectors (Note: antennas not included)
WS-AP2660-IL	Dual Radio 802.11a/b/g outdoor access point with four RP SMA connectors - Israel (Note: antennas not included)
WS-AP3605	Dual Radio 802.11a/b/g/n indoor access point with six internal dual-band omnidirectional antennas (Note: 2x3 MIMO)
WS-AP3605-IL	Dual Radio 802.11a/b/g/n indoor access point with six internal dual-band omnidirectional antennas (Note: 2x3 MIMO) - Israel
WS-AP3610	Dual Radio 802.11a/b/g/n indoor access point with six internal dual-band omnidirectional antennas
WS-AP3610-IL	Dual Radio 802.11a/b/g/n indoor access point with six internal dual-band omnidirectional antennas - Israel
WS-AP3620	Dual Radio 802.11a/b/g/n indoor access point with three detachable dual-band omnidirectional antennas
WS-AP3620-IL	Dual Radio 802.11a/b/g/n indoor access point with three detachable dual-band omnidirectional antennas - Israel
Standalone Access Points	
WS-AP2630-EU	Dual Radio 802.11a/b/g standalone indoor access point with two internal dual-band diversity omnidirectional antennas - Europe (Note: can be operated as a thin AP)
WS-AP2640-EU	Dual Radio 802.11a/b/g standalone indoor access point with external dual-band diversity antenna - Europe (Note: can be operated as a thin AP)
WS-AP3630-NAM	Dual Radio 802.11a/b/g/n standalone indoor access point with internal dual-band antenna - North America
WS-AP3630-IL	Dual Radio 802.11a/b/g/n standalone indoor access point with internal dual-band antenna - Israel
WS-AP3630-ROW	Dual Radio 802.11a/b/g/n standalone indoor access point with internal dual-band antenna - Rest of World
WS-AP3640-NAM	Dual Radio 802.11a/b/g/n standalone indoor access point with external dual-band antenna - North America
WS-AP3640-IL	Dual Radio 802.11a/b/g/n standalone indoor access point with external dual-band antenna - Israel
WS-AP3640-ROW	Dual Radio 802.11a/b/g/n standalone indoor access point with external dual-band antenna - Rest of World
Outdoor Access Point Bundles	
WS-AP36OUTNAM	Integrated outdoor solution; includes AP3620, powered NEMA enclosure, and connectors - North America
Mounting Kits	
WS-MB2605-01	Mounting bracket for AP2605
WS-MB261020-01	Mounting Kit for electrical box mounting for AP2610/AP2620/AP2630/AP2640
WS-MB261020-02	Adaptor plate for electrical box mounting for AP2610/AP2620/AP2630/AP2640
WS-MK265060-01	Mounting Kit for rail or pole mounting for AP2650/AP2660
WS-MB361020-01	Secure mounting Kit with Kensington lock slot and integrated cable routing for AP36xx
WS-MB361020-11	Drop ceiling mounting bracket for AP36xx
WS-MBUNIVERSAL-01	Universal mounting bracket adapter for existing installs (Cisco, Aruba, Trapeze, Roamabout) - Refer to manual for specific access point model support
Power Supply (non-PoE)	
WS-PS2605-MR	AP2605 AC Power Supply - Multi-Region
WS-PS261020-NAM	AP2610/AP2620 AC Power Supply for North America
WS-PS261020-EU	AP2610/AP2620/AP2630/AP2640 AC Power Supply for Europe (Except UK)
WS-PS261020-UK	AP2610/AP2620/AP2630/AP2640 AC Power Supply for UK
WS-PS261020-CN	AP2610/AP2620/AP2630/AP2640 AC Power Supply for China
WS-PS361020-MR	AP36xx AC Power Supply - Multi-Region
WS-PS261020-AU	AP2610/AP2620/AP2630/AP2640 AC Power Supply for Australia
External Antennas	
WS-AI-2S03360	Indoor, 2.4-2.5 GHz, 3.5dBi, omnidirectional, ceiling mount antenna with reverse polarity SMA connector (for AP2620)
WS-AI-DS06360	Indoor, 2.3-2.7/4.9-6 GHz, 5/6dBi, omnidirectional, ceiling mount antenna with reverse polarity type-N jack connector (for AP2620)
WS-AI-DT04360	Indoor, 2.4-2.5/4.9-5.9 GHz, Triple-feed, 3/4 dBi, omnidirectional, ceiling mount antenna with reverse polarity SMA connector (for AP3620/AP3640)
WS-AI-DT05120	Indoor, 2-3-2.7/4.9-6.1 GHz, Triple-feed, 5 dBi, 120 deg, sector antenna with reverse polarity SMA connector (for AP3620/AP3640)

Ordering Information

Part Number	Description
WS-AIO-2S07060	Indoor/Outdoor, 2.4 -2.5 GHz, 7.5 dBi, 60 deg, panel antenna with reverse polarity type-N jack connector (for AP2620)
WS-AIO-2S14090	Indoor/Outdoor, 2.4-2.485 GHz, 14 dBi, 90 deg, panel antenna with reverse polarity type-N jack connector (for AP2620) - North America Only
WS-AIO-2S18018	Indoor/Outdoor, 2.3-2.5 GHz, 18 dBi, 18 deg, panel antenna with reverse polarity type-N jack connector (for AP2620) - North America Only
WS-AIO-5S12060	Indoor/Outdoor, 5.15-5.35 GHz, 12 dBi, 60 deg, panel antenna with reverse polarity type-N jack connector (for AP2620)
WS-AIO-5S15090	Indoor/Outdoor, 4.9-6 GHz, 14/15 dBi, 90/60 deg, panel antenna with reverse polarity type-N jack connector (for AP2620)
WS-AIO-5S17017	Indoor/Outdoor, 5.47-5.85 GHz, 17 dBi, 17 deg, panel antenna with reverse polarity type-N jack connector (for AP2620)
WS-AIO-DS05120	Indoor/Outdoor, 2.4-2.5/4.9-5.9 GHz, 5 dBi, 120 deg, sector antenna with reverse polarity type-N jack connector (for AP2620)
WS-AO-5D16060	Outdoor, 5.15-5.875 GHz, Dual-polarization 16 dBi, 60 deg, sector antenna with reverse polarity type-N jack connector (for AP3620/AP3640)
WS-AO-5D23009	Outdoor, 5.15-5.875 GHz, Dual-polarization, 23 dBi, 9 deg, panel antenna with reverse polarity type-N jack connector (for AP3620/AP3640)
WS-AO-DS05360	Outdoor, 2.4-2.5/5.15-5.875 GHz, 5 dBi, omnidirectional, baton antenna with reverse polarity type-N jack connector (for AP2620/AP3620/AP3640)
Antenna Cables	
RBT4K-AG-PT20F	20 inch pigtail with reverse polarity type-N plug to connect AP to lightning protector or directly to antenna (AP2620, AP3620, AP3640, and AP4102)
RBT4K-AG-PT20M	20 inch pigtail with reverse polarity type-N jack; used to connect AP to the LMR cables (AP2620, AP3620, AP3640, and AP4102)
WS-CAB-RPSMATERM	Access point antenna port terminator (R-SMA plug 50 OHM 1W, required to terminate unused ports on outdoor installations)
RBTES-AG-LPM	Dual-band lightning protector with reverse polarity type-N jack on both ends
RBTES-L200-C20F	20 foot LMR200 cable with reverse polarity type-N plugs on both ends
RBTES-L400-C06F	6 foot LMR400 cable with reverse polarity type-N plugs on both ends
RBTES-L400-C50F	50 foot LMR400 cable with reverse polarity type-N plugs on both ends
RBTES-L400-C75F	75 foot LMR400 cable with reverse polarity type-N plugs on both ends
RBTES-L600-C25F	25 foot LMR600 cable with reverse polarity type-N plugs on both ends
RBTES-L600-C50F	50 foot LMR600 cable with reverse polarity type-N plugs on both ends

Warranty

As a customer-centric company, Enterasys is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible.

Enterasys indoor Wireless Access Points come with a lifetime warranty. All Enterasys Wireless Access Points come with a one year warranty against manufacturing defects. For full warranty terms and conditions please go to: www.enterasys.com/support/warranty.aspx.

Service & Support

Enterasys Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Enterasys account executive for more information about Enterasys Service and Support.

Contact Us

For more information, call Enterasys Networks toll free at 1-877-801-7082, or +1-978-684-1000 and visit us on the Web at enterasys.com

Thought Leadership
Patented Innovation

© 2011 Enterasys Networks, Inc. All rights reserved. Enterasys Networks reserves the right to change specifications without notice. Please contact your representative to confirm current specifications. Please visit http://www.enterasys.com/company/trademarks.aspx for trademark information.

enterasys® Secure Networks™

Delivering on our promises. On-time. On-budget.